

I Claim:

- 1 1. An apparatus for regulating voltage for at least one differential transistor pair having a
2 voltage follower buffer; said voltage follower section having a first voltage-
3 temperature response; the apparatus comprising:
4 (a) a differential amplifier having two input loci and an output locus; a first input
5 locus of said two input loci receiving a reference voltage;
6 (b) a temperature responsive unit coupled between said output locus and ground;
7 and
8 (c) a feedback line coupled between said temperature responsive unit and a second
9 input locus of said two input loci;
10 said temperature responsive unit having a second voltage-temperature response
11 similar to said first voltage-temperature response.
- 1 2. An apparatus for regulating voltage for at least one differential transistor pair powered
2 at a supply voltage level and having a voltage follower buffer as recited in Claim 1
3 wherein said temperature responsive unit comprises at least two resistive devices and
4 a temperature sensitive diode device coupled in series.
- 1 3. An apparatus for regulating voltage for at least one differential transistor pair powered
2 at a supply voltage level and having a voltage follower buffer as recited in Claim 2
3 wherein one resistive device of said at least two resistive devices is coupled with
4 ground.
- 1 4. An apparatus for regulating voltage for at least one differential transistor pair powered
2 at a supply voltage level and having a voltage follower buffer as recited in Claim 2
3 wherein said temperature sensitive diode device is coupled with ground.
- 1 5. An apparatus for regulating voltage for at least one differential transistor pair powered
2 at a supply voltage level and having a voltage follower buffer as recited in Claim 2
3 wherein said temperature sensitive diode device is coupled with said output locus.

- 1 6. An apparatus for regulating voltage for at least one differential transistor pair powered
2 at a supply voltage level and having a voltage follower buffer as recited in Claim 2
3 wherein said feedback line is coupled with said temperature responsive unit at a
4 connection locus; said connection locus being separated from ground by at least one
5 resistive device of said at least two resistive devices and separated from said output
6 locus by at least one resistive device of said at least two resistive devices.
- 1 7. An apparatus for regulating voltage for at least one differential transistor pair powered
2 at a supply voltage level and having a voltage follower buffer as recited in Claim 6
3 wherein one resistive device of said at least two resistive devices is coupled with
4 ground.
- 1 8. An apparatus for regulating voltage for at least one differential transistor pair powered
2 at a supply voltage level and having a voltage follower buffer as recited in Claim 6
3 wherein said temperature sensitive diode device is coupled with ground.
- 1 9. An apparatus for regulating voltage for at least one differential transistor pair powered
2 at a supply voltage level and having a voltage follower buffer as recited in Claim 6
3 wherein said temperature sensitive diode device is coupled with said output locus.
- 1 10. An apparatus for regulating voltage for at least one differential transistor pair powered
2 at a supply voltage level and having a voltage follower buffer as recited in Claim 6
3 wherein said temperature sensitive diode device is a diode-coupled bipolar transistor.
- 1 11. An apparatus for regulating voltage for at least one differential transistor pair powered
2 at a supply voltage level and having a voltage follower buffer as recited in Claim 10
3 wherein one resistive device of said at least two resistive devices is coupled with
4 ground.

1 12. An apparatus for regulating voltage for at least one differential transistor pair powered
2 at a supply voltage level and having a voltage follower buffer as recited in Claim 10
3 wherein said temperature sensitive diode device is coupled with ground.

1 13. An apparatus for regulating voltage for at least one differential transistor pair powered
2 at a supply voltage level and having a voltage follower buffer as recited in Claim 10
3 wherein said temperature sensitive diode device is coupled with said output locus.

1 14. An apparatus for providing a regulated signal to selected stages of a multi-stage
2 differential signaling device; each respective said selected stage including a voltage
3 follower section having a respective first voltage-temperature response; the apparatus
4 comprising:

5 (a) a differential amplifier having two input loci and an output locus; a first input
6 locus of said two input loci receiving a reference voltage;

7 (b) a temperature responsive unit coupled between said output locus and ground;
8 and

9 (c) a feedback line coupled between said temperature responsive unit and a second
10 input locus of said two input loci;

11 said temperature responsive unit having a second voltage-temperature response
12 similar to said respective first voltage-temperature responses of said selected stages.

1 15. An apparatus for providing a regulated signal to selected stages of a multi-stage
2 differential signaling device as recited in Claim 14 wherein said temperature
3 responsive unit comprises at least two resistive devices and a temperature sensitive
4 diode device coupled in series.

1 16. An apparatus for providing a regulated signal to selected stages of a multi-stage
2 differential signaling device as recited in Claim 15 wherein said feedback line is
3 coupled with said temperature responsive unit at a connection locus; said connection
4 locus being separated from ground by at least one resistive device of said at least two

5 resistive devices and separated from said output locus by at least one resistive device
6 of said at least two resistive devices.

1 17. An apparatus for providing a regulated signal to selected stages of a multi-stage
2 differential signaling device as recited in Claim 16 wherein one resistive device of
3 said at least two resistive devices is coupled with ground.

1 18. An apparatus for providing a regulated signal to selected stages of a multi-stage
2 differential signaling device as recited in Claim 16 wherein said temperature sensitive
3 diode device is coupled with ground.

1 19. An apparatus for providing a regulated signal to selected stages of a multi-stage
2 differential signaling device as recited in Claim 16 wherein said temperature sensitive
3 diode device is coupled with said output locus.

1 20. An apparatus for providing a regulated signal to selected stages of a multi-stage
2 differential signaling device as recited in Claim 16 wherein said temperature sensitive
3 diode device is a diode-coupled bipolar transistor.